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capitalists had refused to do what the government finally did—that is furnish the capital to build a line to the Pacific. The use of this illustration to prove that government is slower than private capitalists in furnishing transportation facilities shows either ignorance of the facts or a belief that the public is ignorant of the facts.

If, as Mr Harriman states, railways must be rebuilt every ten years, how can he justify building them twenty-five years before they are needed for traffic? Promoters' and manipulators' profits must be greater than the public has ever imagined, if we are to justify the fleecing of investors involved in building and rebuilding roads two and a half times before the industrial and commercial needs of the country require them.

The reporter, the magazine writer, the economist, and the student may be trusted to use historical illustrations more accurately and effectively in shaping public sentiment than Mr. Harriman has done in his recent interview. If he will leave history and deduction to the historians, and give us an honest statement of the facts of transportation as he is shaping them, he will render the greatest possible service in forming intelligent and sound public opinion, and will improve his own standing in the community.

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### WOOD-PULP AND THE TARIFF

The paper-making and allied printing industries rank sixth in importance in the United States. The chief raw materials which enter into the making of paper are wood-pulp and rags. As the basis of all crude paper stock is simply cellulose isolated in the form of fibers of as great length as possible, theoretically any plant could furnish the raw material required. But till 1870 practically the only source of paper was cotton and linen rags, which had been already reduced almost to a pure cellulose by the processes of textile manufacture. Since that time wood-pulp has come more and more into use, in two forms—mechanically ground wood and chemical fiber, prepared by soaking the wood in sulphite or soda solutions. Today wood-pulp forms seven-eights of the raw material used.<sup>1</sup> In England wide use is made of esparto fiber, but in this country wood-pulp rules supreme. Almost any wood may be used, but spruce and

<sup>1</sup> *Twelfth Census, Manufactures*, Vol. III, p. 1017.

poplar are so much more advantageous that pulp-making is practically confined to these two trees: in 1900, 89 per cent. of the pulp was provided from this source.<sup>2</sup>

The tariff on rags presents no special difficulties; rags are one article in which we cheerfully admit our permanent inability to compete with the pauper labor of Europe, and consequently they figure on the free list. Chemicals, which enter as a raw material into the making of paper to the extent of over \$6,000,000 a year, are considered elsewhere. There remains the chief material, wood-pulp, which is subjected to a duty ranging from one-twelfth cent per pound on mechanically ground wood-pulp to one-fourth cent per pound on bleached chemical fiber pulp. The most interesting points in this connection will be found to be the attitude of the most influential section of the paper manufacturers in opposing a reduction of duty on pulp, and the relation between this tariff schedule and forest preservation.

On investigating the source of supply of this raw material, two facts stand out clearly: first, that the pulp-wood resources of the United States are rapidly being exhausted, and, second, that across the line in Canada there are practically unlimited reserves easy of access and cheaply transported. In this country, except for small patches in Michigan and Wisconsin, the supply of spruce is practically confined to Maine, New Hampshire, Vermont, and New York.<sup>3</sup> Of these states, Vermont can scarcely supply her own demand; New Hampshire is face to face with the entire exhaustion of her timber resources before another decade; while of the 420 timber townships of Maine there are few that have not been cut over for spruce and pine. Across the border there stretches from New Brunswick to Hudson Bay a practically unbroken stretch of spruce forest, most of it well served with river navigation.

In view of this situation, one would imagine that the American paper-makers would be tumbling over one another to have pulp wood placed on the free list.<sup>4</sup> Yet we find the International Paper Company, which controls 70 per cent. of the newspaper production of the country, strenuously resisting any reduction in the present rate.

<sup>2</sup> *Twelfth Census, Manufactures, loc. cit.*

<sup>3</sup> *Twelfth Census, Vol. I, p. cciv.*

<sup>4</sup> *Industrial Commission, Vol. XIII, p. 416.*

The explanation of this seeming anomaly rests in the possession of a monopoly differential by the company aforesaid, which is familiarly known as the "Paper Trust." It must be premised that four requisites are needed for economical and large-scale manufacture of paper: a cheap and convenient supply of spruce, cheap and ample water power to operate the heavy pulp-grinding machinery, water of quality suitable for use in mixing the pulp, and cheap routes to market.<sup>5</sup> As to the first requisite, the trust controls over a million acres of spruce land; of the second its monopoly is even more stringent, it being credibly affirmed that there is not available a single large water power in proximity to the timber supply.

The combination . . . . included practically all the locations in the United States where cheap and ample water power, cheap and good spruce wood, and cheap rates to market can be obtained for a mill of 100 tons' daily capacity.<sup>6</sup>

The trust thus has a large initial advantage over all competitors so long as the tariff holds. Their own resources meet all their present needs; they import little, and so pay little duty. Their competitors, compelled to use inferior domestic sources of supply, or to pay the duty on Canadian woods, are distinctly hampered by the tariff. If the duty were lowered, the trust, like all other makers, would gain by the cheaper price of pulp, but would lose its present differential, unless, it is true, the abolition of the duty is postponed long enough to enable the International Paper Company to repeat in Canada the policy it has pursued in the United States.<sup>7</sup> Already its holdings of Canadian spruce lands aggregate over 2,200,000 acres, and they are continually being increased. However, the spruce forests of the north are too vast to be cornered by a single company; an advantage, not a monopoly, will be all the trust will hold when Canadian spruce enters free. Meantime one result of these vast holdings is to increase the idle capital on which users of paper in the present must pay dividends.

In spite of the duty, about one-fifth of the total spruce consumption comes from Canadian sources. This importation has to contend with a double tariff; Canadian protectionists tax spruce going out, Americans tax it coming in. When the Dingley tariff

<sup>5</sup> *Ibid.*, p. 410.

<sup>6</sup> Brief of American Newspaper Association to Joint High Commission, Industrial Commission, Vol. XIII, p. 416.

<sup>7</sup> United States Consular Report.

practically doubled the rates of duty, tariff reprisals were feared, naturally, and an attempt was made in the bill itself to circumvent them by providing

that if any county or dependency shall impose an export duty on pulp wood exported to the United States, the amount of such export duty shall be added as an additional duty to the duties herein imposed upon pulp wood, when imported from such country or dependency.

Ontario met this provision by prohibiting the export of logs cut from crown lands, and Quebec by putting a license fee of \$1.90 a cord on all timber cut, \$1.50 of which is rebated if the logs are used in Canada. The effect of these measures has been fairly successful from the Canadian point of view, more so in lumbering generally than in the pulp-wood industry specifically. One effect of the double barrier seems to be that of making Canada and Newfoundland headquarters for the export paper trade. Large investments have been made recently by the Harmsworths and the English interests, while the International Paper Company itself is now operating several Canadian mills chiefly for the export trade. The world's export trade runs between \$90,000,000 and \$100,000,000; Germany and Norway are the only countries besides the United States and Canada which can compete in the coarser qualities, and their competition would not be serious if the forestry and tariff regulations on this side of the ocean were as enlightened as theirs. The tendency seems to be that the command of the export trade will more and more drift to Canada, so long as the United States persists in shutting its manufacturers out of the unlimited Canadian supplies of raw material.

During the first half of last century one of the favorite arguments of protectionists was the danger of exhausting our natural resources by confining our energies to the extractive industries. Today this argument points the other way. By a tariff on such raw products as wood-pulp, lumber, and coal we are encouraging the rapid exhaustion of our own resources instead of husbanding them by drawing on foreign supplies. This danger is particularly apparent in the industry under consideration. The spruce supply, as was pointed out above, is practically limited to New York and the northern New England states. It is estimated that every year 625 square miles of spruce land are cut for pulp. As Mr. Gifford Pinchot wrote in 1898:

The original forests cannot long suffice to supply the increasing demands for spruce which are made upon them. . . . Cutting for pulp does more harm than cutting for lumber, because it takes a vastly greater number of small trees.<sup>8</sup>

There are only two ways to avert this famine—afforestation and letting down the tariff bars. The forestry movement has gained great headway in recent years, and strenuous if belated efforts are being made by the spruce states to conserve their dwindling resources. New York, especially, by setting aside the Adirondack Park, which contains 2,807,760 out of the 3,588,803 acres of spruce land in the state, has tried to meet the crisis.<sup>9</sup> The pulp companies themselves are realizing the folly of earlier wasteful methods, and the International Paper Company states that its present operations are confined to trees over 12 inches in diameter, thus preventing the wholesale destruction of the young trees. But there seems little doubt that the ever-growing demands of the mills are outstripping the efforts of both state and private foresters. The wakening came too late. The only effective remedy seems to be free Canadian pulp. With the pressure on American forests thus released, afforestation efforts of the present would have a chance to regain lost ground, and the heritage of American woods might be preserved forever. Fortunately the lesson taught by American recklessness is slowly penetrating into Canada, and steps are being taken there which, while permitting a cut beyond any possible demands, will prevent the wasteful and destructive methods of yore. There is no danger, then, that the turning of the demand upon Canadian forests will mean their exhaustion. It will simply mean that for the present the monopoly rent which a few American producers are reaping will cease, and for the future an undiminishing supply of the precious raw material will be insured to give America the lead in the ever-growing paper industry.

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<sup>8</sup> Industrial Commission, Vol. XIII, p. 418.

<sup>9</sup> Warner Miller, Brief to Joint High Commission, 1898, Industrial Commission, Vol. XIII, p. 444.